

REMARKS:

SPECIFICATION AMENDMENTS

The Applicant has amended portions of the specification to make changes requested by the Examiner.

5 **CLAIM REJECTIONS**

35 USC 112

The Examiner has rejected claim **20** under 35 U.S.C. 112, second paragraph as being indefinite. In rejecting claim **20**, the Examiner states that it is not clear what element has a fixed and a free end. To expedite prosecution, the Applicant has amended claim **20** to recite that it is the anti-stiction member itself which has fixed and free ends. The Applicant submits that amendment is supported in the specification at page 6 line 6, page lines 1-15 and FIGs. 1B-1D. As such no new matter has been added with the amendment.

Furthermore, the Applicant submits that the amendment to claim **20** merely makes explicit that which was implicit in claim **20** as filed. As such, this amendment does not narrow any limitation 15 of claim **20** within the meaning of the decision in *Festo Corp. v. Shoketsu Kogyo Kabushiki Co., Ltd.*, 234 F3d 558, 566, 56 U.S.P.Q.2d 1865 (Fed. Cir. 2000) 535 U.S. 722, 152 L. Ed. 2d 944, 122 S. Ct. 1831, (2002).

35 USC 102 Swart

The Examiner has rejected claims **1, 2, 11-16, 19-22, 24-30, 33-38, 40-45, 50-54** and **57-60** 20 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,025,951 to Swart et al. (hereinafter Swart). In rejecting the claims, the Examiner states that Fig. 4-6 of Swart disclose a method of reducing stiction in MEMS device comprising a moveable element 42 coupled with an anti-stiction member 58. The Examiner argues that part of the member 58 acts as an anti-stiction member as the height prevents the mirror from sticking to the substrate 46.

25 The Applicants respectfully traverse the rejection. Swart is devoid of any teaching or suggestion of an anti-stiction member as recited in the rejected claims. A word search on Swart reveals not a single instance of the word "stiction." Instead, Swart teaches that the element 58 is part of a

hinge 40. Although Swart does not explicitly say so, the hinge 40 would not function as Swart shows in Fig. 3B unless the web 56 portion of the hinge 40 were attached to the substrate 46. Furthermore, Swart teaches that the hinge 40 is integrated with the mirror 42 (see col. 8, lines 42-44). Consequently, the apparatus of Swart is a structural attachment between the mirror 42 and the substrate 46. The Applicant submits that such an apparatus cannot be an anti-stiction member as recited in claims 1, 2, 11-16, 19-22, 24-30, 33-38, 40-45, 50-54 and 57-60. Consequently, Swart does not recite all the features of these claims. As such, claims 1, 2, 11-16, 19-22, 24-30, 33-38, 40-45, 50-54 and 57-60 define an invention suitable for patent protection.

35 USC 102 Wu

10 The Examiner has rejected claims 1, 2, 11, 12, 15-17, 24, 26, 29, 30, 33, 31, 38, 41-44, and 50-55 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,498,870 to Wu et al. (hereinafter Wu). In rejecting the claims, the Examiner states that Fig. 9-10 of Wu disclose a method of reducing stiction in MEMS device comprising providing a substrate 17 with a an anti-stiction member 172 and interposing the anti-stiction member between a moveable element 12 and the substrate.

15 The Applicant respectfully traverses the rejection. Wu does not teach an anti-stiction member as recited in the rejected claims. Instead Wu teaches a landing electrode 172 biased at the same voltage as the torsion plate 11e that can be employed to stop the rotation of the torsion plate 11e without shorting to the bottom electrode 171 (see col. 18, lines 57-60). As such Wu does not teach all limitations of the rejected claims. As such claims 1, 2, 11, 12, 15-17, 24, 26, 29, 30, 33, 31, 38, 41-44, and 50-55 define an invention suitable for patent protection.

35 USC 103

Wu or Swart in view of Ilkov

20 The Examiner has rejected claims 3 under 35 USC 103(a) as being unpatentable over Swart or Wu in further view of U.S. Patent 6,523,961 to Ilkov (hereinafter Ilkov). In rejecting the claims, the Examiner applies Wu and Swart as described above. The Examiner admits that although neither Wu nor Swart teaches immersing the moveable element in a liquid. The Examiner states

that Ilkov discloses using a liquid for providing anti-stiction characteristics to the moveable element at column 7, lines 17-19. The Examiner argues that it would have been obvious to one of skill in the art to use liquid as taught by Ilkov in the device of Swart or Wu so that the deflecting device can operate properly.

5 The Applicant respectfully traverses the rejection. Claim 3 depends from claim 1. For the reasons set forth above, neither Wu nor Swart teaches all the limitations of claim 1. Therefore, no combination of Wu or Swart with Ilkov teaches all the limitations of claim 3. Furthermore, claim 3 recites “substantially immersing the moveable element in a liquid *during actuation of the moveable element.*” Ilkov is devoid of any teaching or suggestion of actuating the device while it is immersed in a liquid. Instead Ilkov recites etching sacrificial layers and then treating the remainder of the device for stiction by applying an anti-stiction layer (see col. 7, lines 16-21). As such, for at least this additional reason, no combination of Wu or Swart with Ilkov teaches all the limitations of claim 3 and a prima facie case of obviousness is not present. Therefore, claim 3 defines an invention suitable for patent protection.

15 Swart or Wu in view of admitted prior art

The Examiner has rejected claims 23, 39, and 61 under 35 USC 103(a) as being obvious over Swart or Wu in view of Admitted Prior Art. The Examiner states that Swart or Wu satisfies all the limitations of claims 15, 29, 38 and 50 as discussed above. The Examiner admits that neither Swart nor Wu discloses a standoff on the free end of the anti-stiction member. The Examiner argues that Admitted Prior Art on page 2, lines 15-16 of the instant specification discusses providing a dimple on the microstructure, which can be in the form of a standoff. The Examiner concludes that it would have been obvious to provide a standoff to reduce stiction.

25 The Applicant respectfully traverses the rejection. Claims For the reasons set forth above, neither Wu nor Swart teaches all the limitations of claim 15, 29, 38 and 50. Therefore, no combination of Wu or Swart with Admitted Prior Art teaches all the limitations of claims 23, 39, and 61 and a prima facie case of obviousness is not present. Therefore, claims 23, 39, and 61 define an invention suitable for patent protection.

ALLOWABLE SUBJECT MATTER

The Examiner has allowed claims **46-49** and indicated that claims **4-10, 18, 32** and **56** would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant appreciates the allowance of claims **46-49**. The
5 Applicant believes, for the reasons set forth above, that the claims **4-10, 18, 32** and **56** as they presently stand in the application are allowable over the prior art of record.

CONCLUSION

For the reasons set forth above, the Applicants submit that all claims are allowable over the cited art and define an invention suitable for patent protection. The Applicants therefore respectfully
10 request that the Examiner enter the amendment, reconsider the application, and issue a Notice of Allowance in the next Office Action.

Respectfully submitted,



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